

77932

Page 1

Accept

N900040100

Setup Start *NS1*

Stop *NS2*

Start Date: 22/12/2011 **Start Qty:** 6.00 ***6***

Cust Item ID:

Required Date: 05/01/2012 **Req'd Qty:** 6.00 ***6***

Customer:

Reference:

Approvals: _____ Process Plan: M.L.J _____ Date: 11/12/22 Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

100	BAND SAW	0.00		
100				
Bandsaw	Memo	0.00	cut 12/01/09	5
Jeaspa Bandsaw	Cut blanks 15.500" long			
110	HAAS CNC VERTICAL MACHINING #1	0.00		
110				
HAAS 1	Memo	0.00	36 12R	12/01/09
HAAS CNC vertical machine #1	1- Mill as per Folio FA695 Rev. <u>12R</u> & Dwg D3560 Rev: <u>D</u>			
	2-C'sink 0.196" hole on manual mill as per dwg D3560			
	3-Deburr per dwg D3560			
120	QC2- Inspect parts off machine FAI/FAIB	0.00		
120				
QC	Memo	0.00	36 12R	12/01/09
Quality Control				

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 77932***77932***

Page 2

December-22-11 2:44:58 PM

Item ID: D3560-043 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Arm Weldment
Start Date: 22/12/2011 Start Qty: 6.00 ***6*** Cust Item ID:
Required Date: 05/01/2012 Req'd Qty: 6.00 ***6*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

130	QC8- Inspect parts - second check	0.00							
-----	-----------------------------------	------	--	--	--	--	--	--	--

130

QC

Memo

Quality Control

140

140

Large Fab

Large Fab

Large Fab

Memo

1-Weld assembly as per dwg D3560

STEP:

1- clean material (buff bracket and bottom of arm with blue pad)

2- set up bracket and arm on jig

3- preheat bracket and arm with torch

4- clean before welding with brush

5- set up machine to 135 amps

6- weld across bottom and top ends

7- reheat with torch (65 deg C)

8- on one side weld from bottom to top half way

9- same for other side (half way)

10- from half way point weld the rest of the first side (ease off pedal near end)

11- same for remaining side (ease off pedal near end)

11/17/12
Allen. Rod

0.00

0.00

0.00

0.00

5

Ø

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

77932

Page 3

Accept

N900040100

Setup Start *NS1*

Stop *NS2*

Start Date: 22/12/2011 **Start Qty:** 6.00 ***6***

Cust Item ID:

Required Date: 05/01/2012 **Req'd Qty:** 6.00 ***6***

Customer:

Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Operation Description

Set Up/ Run Hours

Tool ID

Tool #

**Plan
Code**

Accept Qty

Reject
Qty

Reject Number

**Insp.
Stamp**

150

QC5- Inspect part completeness to step on W/O

0.00

150

0.00 Sizlulzo

QC

Memo

Quality Control

160

QC9- Inspect visual per QSI004- Fusion Welds

0.00

160

0.00

QC

Memo

Quality Control

170

Chemical Conversion Coat per QSI005 4.1

0.00

170

0.00

HandFinish

Memo

Hand Finishing

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 77932

77932

Page 4

December-22-11 2:44:58 PM

Item ID: D3560-043 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Arm Weldment
 Start Date: 22/12/2011 Start Qty: 6.00 ***6*** Cust Item ID:
 Required Date: 05/01/2012 Req'd Qty: 6.00 ***6*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

180 QC3- Inspect Part Finish 0.00

180

QC

Quality Control

Memo

0.00

SXØ M 12/01/24

190 Small Fab 0.00

190

Small Fab

Small Fab

Small Fab

Memo

1-Press bushing in D3560 arm per dwg D3562

0.00

12/01/24 (5)

200 QC5- Inspect part completeness to step on W/O 0.00

200

QC

Quality Control

Memo

0.00

8 12/01/24

(45) 243

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 77932

77932

Page 5

December-22-11 2:44:58 PM

Item ID: D3560-043 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Arm Weldment
Start Date: 22/12/2011 Start Qty: 6.00 ***6*** Cust Item ID:
Required Date: 05/01/2012 Req'd Qty: 6.00 ***6*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
210	Identify as per dwg & Stock Location: <i>W/A</i>	0.00							
210									
Packaging	Memo	0.00							
Packaging	*** STOCK IN STEP CELL***								
220	QC21- Final Inspection - Work Order Release	0.00							
220									
QC	Memo	0.00							
Quality Control									

12.01.25

5

Ø

12/1/30

MR

12-01-26

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

December-22-11 2:45:02 PM

Page 1

Work Order ID: 77932

77932

Parent Item: D3560-043

D3560-043

Parent Item Name: Arm Weldment

Start Date: 22/12/2011

Required Date: 05/01/2012

Start Qty: 6.00

Required Qty: 6.00

Comments: IPP Rev:A New Issue 07.05.24 EC
IPP Rev B ECN 987 07.10.09 EC
IPP Rev:C ECN1048 07-12-18 DD verified by: EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D2808

Manufactured

No

100

Each

22.0000

1

6

D2808

Bushing

**

Location

Loc Qty

Loc Code

GA

22

32896

2

71879

8

76188

12

M6061T6B0.500X05.00
0

Purchased

No

140

f

38.4750

1.295

8.178947

M6061T6B0 500X05 000

6061-T6 Bar .500 x 5.00

**

Location

Loc Qty

Loc Code

MAT001

38.475

112154

6.935

→ 117933

7.54

119324

24

D3592-1

Manufactured

No

190

Each

9.0000

1

6

D3592-1

Plate

**

Location

Loc Qty

Loc Code

WA002

9

47015

2

48517

7

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

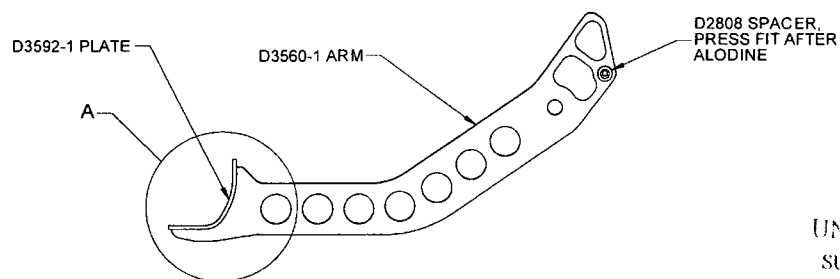
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

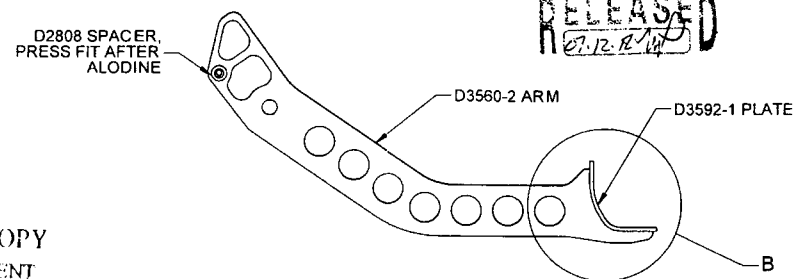
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

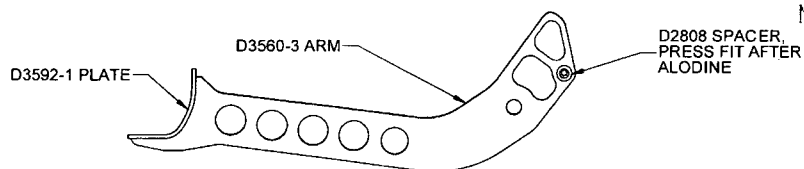
RELEASED
07.12.11



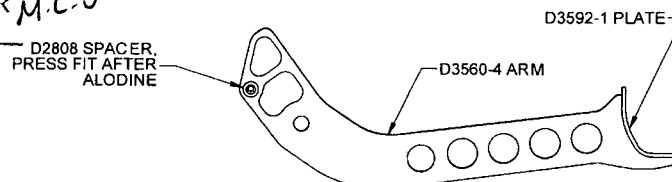
D3560-041 ARM WELDMENT



D3560-042 ARM WELDMENT

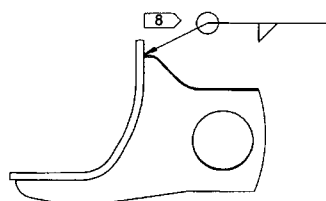


D3560-043 ARM WELDMENT



D3560-044 ARM WELDMENT

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER M.C.J.
NO. 77932
11/12/22



**DETAIL A
SCALE 1:2**

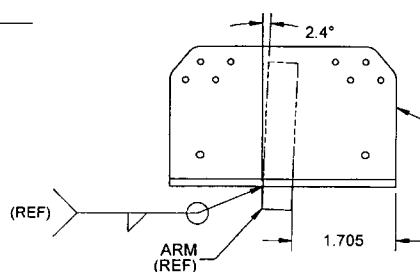
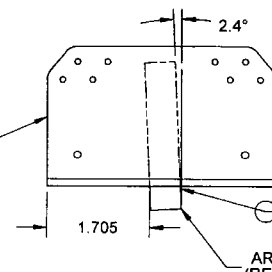
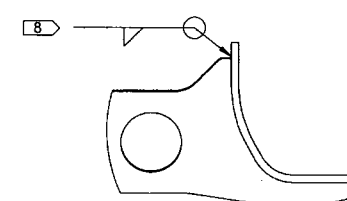


PLATE
(REF)



ARM
(REF)



**DETAIL B
SCALE 1:2**

PARTS LIST

QTY -041	QTY -042	QTY -043	QTY -044	P/N	DESCRIPTION
X				D3560-041	ARM WELDMENT
	X			D3560-042	ARM WELDMENT
		X		D3560-043	ARM WELDMENT
			X	D3560-044	ARM WELDMENT
1	1	1	1	D2808	SPACER
1				D3560-1	ARM
	1			D3560-2	ARM
		1		D3560-3	ARM
			1	D3560-4	ARM
1	1	1	1	D3592-1	PLATE

D	ADD D2808 PRESS FIT NOTE: REDRAWN IN SOLIDWORKS	DC	07.11.16
C	REMOVE POWDER COAT	CP	07.06.19
B	REDESIGN AS WELDMENT, ADD POCKETS	CP	07.01.15
A	NEW ISSUE	CP	06.09.25
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	07.11.16		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWING NO. D3560 TITLE ARM WELDMENT SCALE 1:4 REV. D SHEET 1 OF 5 COPYRIGHT © 2006 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD			

- NOTES:
1) MATERIAL: N/A
2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.015 MAX
6) IDENTIFICATION: N/A
7) WEIGHT: 1.23 lbs (TYP)
8) WELDING: PER DART QSI 004

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

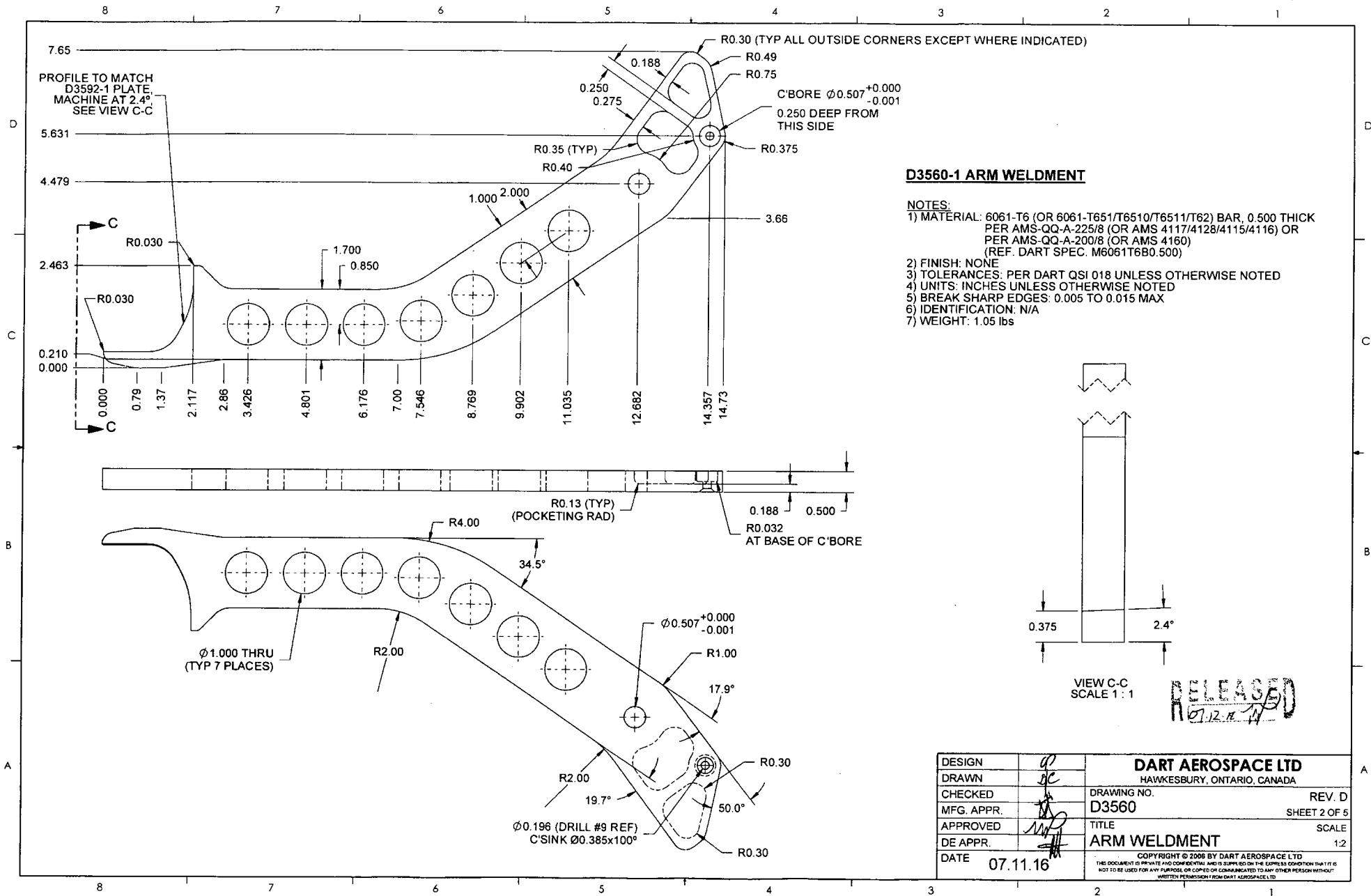
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

77932



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

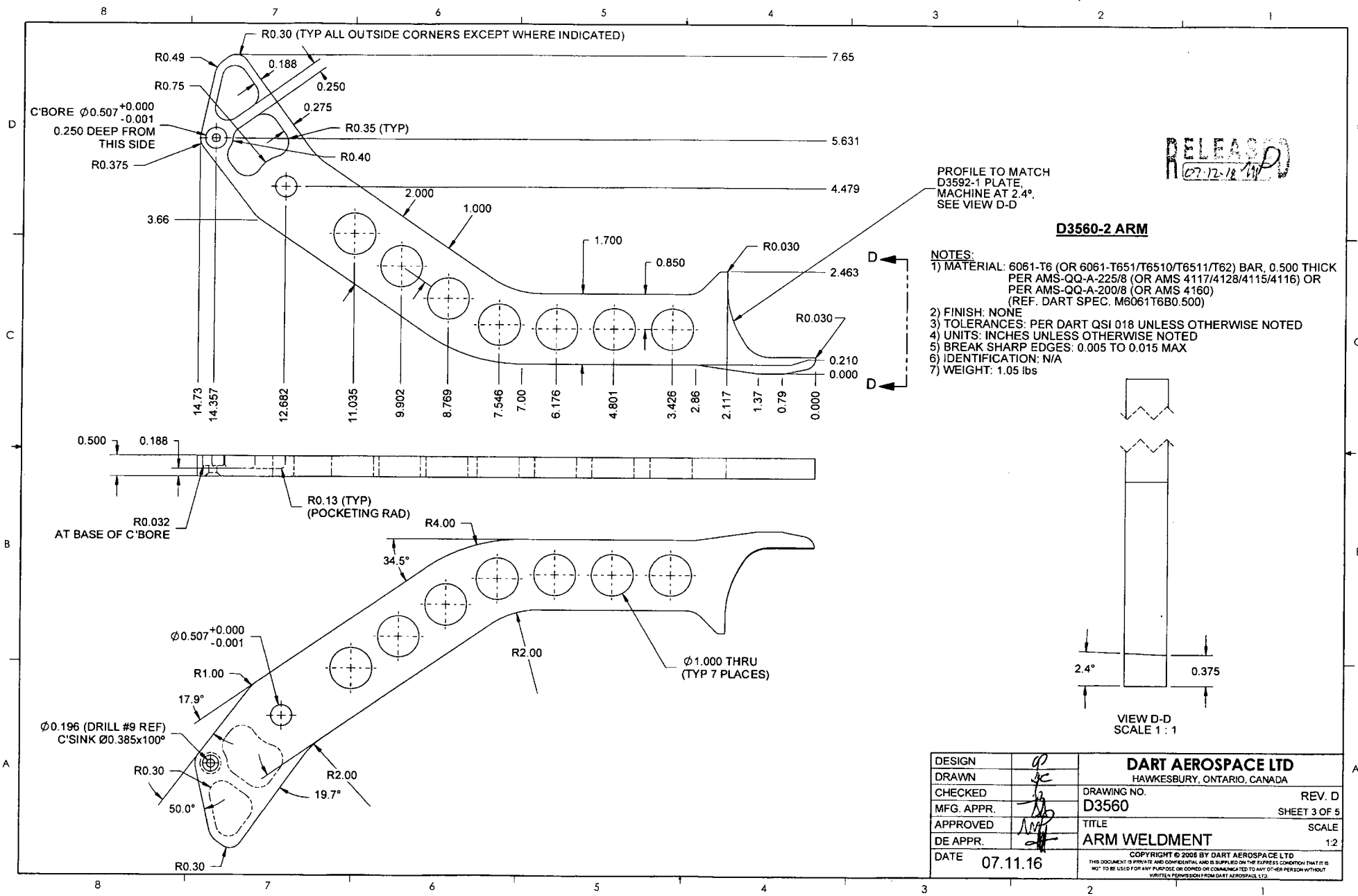
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

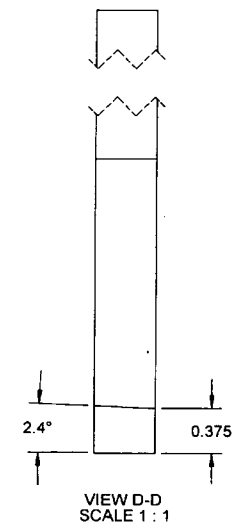
77932



RELEASED
07-12-11

D3560-2 ARM

- NOTES:**
- 1) MATERIAL: 6061-T6 (OR 6061-T651/T6510/T6511/T62) BAR, 0.500 THICK PER AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116) OR PER AMS-QQ-A-200/8 (OR AMS 4160) (REF. DART SPEC. M6061T6B0.500)
 - 2) FINISH: NONE
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.015 MAX
 - 6) IDENTIFICATION: N/A
 - 7) WEIGHT: 1.05 lbs



DESIGN		DART AEROSPACE LTD
DRAWN		HAWKESBURY, ONTARIO, CANADA
CHECKED		DRAWING NO. D3560 REV. D
MFG. APPR.		SHEET 3 OF 5
APPROVED		TITLE ARM WELDMENT SCALE 1:2
DE APPR.		
DATE	07.11.16	

COPYRIGHT © 2008 BY DART AEROSPACE LTD
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMINGLED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

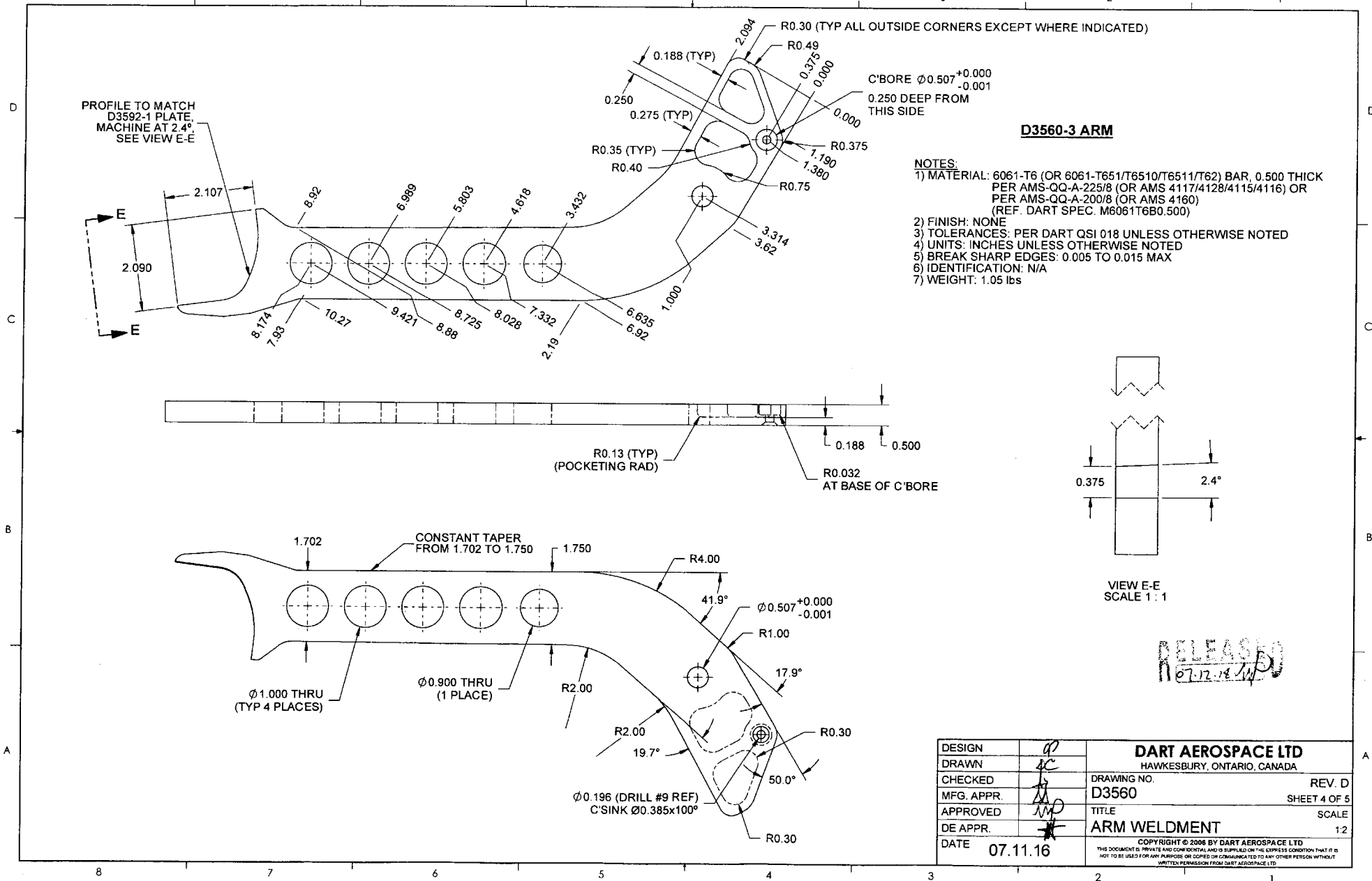
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

77932



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

D3560-4 ARM

NOTES:

- 1) MATERIAL: 6061-T6 (OR 6061-T651/T6510/T6511/T62) BAR, 0.500 THICK PER AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116) OR PER AMS-QQ-A-200/8 (OR AMS 4160) (REF. DART SPEC. M6061T6B0.500)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.015 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 1.05 lbs

VIEW F-F SCALE 1:1

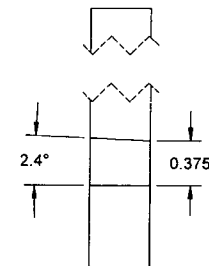
DESIGN *JP*
DRAWN *BC*
CHECKED *JP*
MFG. APPR. *JP*
APPROVED *JP*
DE APPR. *JP*
DATE 07.11.16

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA
DRAWING NO. D3560
TITLE ARM WELDMENT
SCALE 1:2
REV. D
SHEET 5 OF 5

COPYRIGHT © 2006 BY DART AEROSPACE LTD
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

NOTES:

- 1) MATERIAL: 6061-T6 (OR 6061-T651/T6510/T6511/T62) BAR, 0.500 THICK
PER AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116) OR
PER AMS-QQ-A-200/8 (OR AMS 4160)
(REF. DART SPEC. M6061T6B0.500)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.015 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 1.05 lbs



VIEW F-F
SCALE 1 : 1

07-12-18 *MP*

DESIGN	<i>JP</i>	DART AEROSPACE LTD	
DRAWN	<i>BC</i>	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>JP</i>	DRAWING NO.	REV. D
MFG. APPR.	<i>JP</i>	D3560	SHEET 5 OF 5
APPROVED	<i>JP</i>	TITLE	SCALE
DE APPR.	<i>JP</i>	ARM WELDMENT	1:2
DATE	07.11.16	COPYRIGHT © 2006 BY DART AEROSPACE LTD	
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.			

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

